

ABSTRACT

To provide a substrate material made of an aluminum/silicon carbide composite alloy which has a thermal conductivity of 100 W/m×K or higher and a thermal expansion coefficient of $20 \times 10^{-6}/^{\circ}\text{C}$ or lower and is lightweight and compositionally homogeneous. A substrate material made of an aluminum/silicon carbide composite ally which comprises Al-SiC alloy composition parts and non alloy composition part and dispersed therein from 10 to 70% by weight silicon carbide particles, and in which the fluctuations of silicon carbide concentration in the Al-SiC alloy composition parts therein are within 1% by weight. The substrate material is produced by sintering a compact of an aluminum/silicon carbide starting powder at a temperature not lower than 600°C in a non-oxidizing atmosphere.